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International Bureau



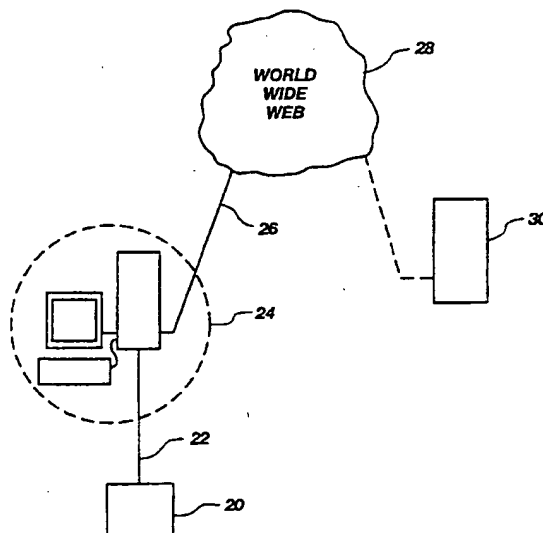
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60/135,901 26 May 1999 (26.05.1999) US
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(54) Title: SYSTEM AND METHOD FOR ACCESSING PREDETERMINED SHOPPING WEB SITES



(57) Abstract: A system and method for facilitating web navigation, and more specifically for providing the ability to access pre-screened web sites which are screened for the purpose of providing an improved e-commerce experience. The system and method includes using a conveniently sized web navigation device (20) that accepts input from a variety of user input devices. The web navigation device is coupled to a browser terminal (24) that is in turn coupled to the web (28). The browser terminal displays information regarding the pre-screened web sites on the web, such information possibly including a merchant database (30) that provides a list of the contents of the merchant web sites, and easy access to the pre-screened merchant web sites. The web navigation device facilitates access to and movement through the merchant database and to the merchant web sites.

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International application No.

PCT/US00/14541

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US CL : 705/26, 27

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 27

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Desktop Encyclopedia of the Internet

Microsoft Computer Dictionary

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

East, Dialog, Corporate Resource Net

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,799,284 A (BOURQUIN) 25 August 1998, col. 2, lines 40-67, col. 3, lines 1-7.	1-59
Y	US 5,884,282 A (ROBINSON) 16 March 1999, col. 2, lines 10-57.	1-59
Y	US 5,905,973 A (YONEZAWA et al.) 18 May 1999, col. 2, lines 43-46.	5-7, 9-10
Y	US 5,895,454 A (HARRINGTON) 20 April 1999, col. 1, lines 55-67, col. 2, lines 1-58.	1-59
A	US 5,893,098 A (PETERS et al) 06 April 1999, col. 3, lines 28-41.	8,15-17



Further documents are listed in the continuation of Box C.



See patent family annex.

*

Special categories of cited documents:

T

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A

document defining the general state of the art which is not considered to be of particular relevance

X

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earlier document published on or after the international filing date

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document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O

document referring to an oral disclosure, use, exhibition or other means

A

document member of the same patent family

P

document published prior to the international filing date but later than the priority date claimed

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(54) Title: SYSTEM AND METHOD FOR ACCESSING PREDETERMINED SHOPPING WEB SITES (54) Titre: SYSTEME ET PROCEDE PERMETTANT D'ACCEDER A DES SITES DE VENTE PREDETERMINEES SUR LA TOILE		
(57) Abstract <p>A system and method for facilitating web navigation, and more specifically for providing the ability to access pre-screened web sites which are screened for the purpose of providing an improved e-commerce experience. The system and method includes using a conveniently sized web navigation device that accepts input from a variety of user input devices. The web navigation device is coupled to a browser terminal that is in turn coupled to the web. The browser terminal displays information regarding the pre-screened web sites on the web, such information possibly including a merchant database that provides a list of the contents of the merchant web sites, and easy access to the pre-screened merchant web sites. The web navigation device facilitates access to and movement through the merchant database and to the merchant web sites.</p> (57) Abrégé <p>Cette invention concerne un système et un procédé qui facilitent la navigation sur la toile, et qui permettent plus précisément d'accéder à des sites de la toile qui sont préfiltrés afin d'offrir une meilleure expérience de commerce électronique. Ce système et ce procédé font appel à un dispositif de navigation sur la toile qui possède une taille pratique et qui accepte les entrées de divers dispositifs d'entrées d'utilisateurs. Le dispositif de navigation sur la toile est couplé à un terminal de survol qui est lui-même couplé à la toile. Le terminal de survol affiche des informations concernant les sites préfiltrés sur la toile, lesquelles informations peuvent comprendre une base de données commerciale qui fournit une liste du contenu des sites commerciaux de la toile, ainsi qu'un accès facile aux sites commerciaux préfiltrés de la toile. Ce dispositif de navigation sur la toile facilite l'accès à la base de données commerciale et au déplacement dans cette dernière, ainsi que l'accès aux sites commerciaux de la toile.</p>		

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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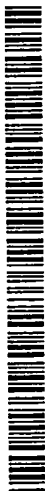


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- (71) Applicant: **INDELELINK CORPORATION [US/US];**
P.O. Box 9458, Salt Lake City, UT 84109-9998 (US).
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- (74) Agents: **O'BRYANT, David, W. et al.; Morriss, Bateman, O'Bryant & Compagni, P.C., Suite 300, 5882 South 900 East, Salt Lake City, UT 84121 (US).**
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WO 00/72115 A2

(54) Title: **SYSTEM AND METHOD FOR ACCESSING PREDETERMINED SHOPPING WEB SITES**

(57) Abstract: A system and method for facilitating web navigation, and more specifically for providing the ability to access pre-screened web sites which are screened for the purpose of providing an improved e-commerce experience. The system and method includes using a conveniently sized web navigation device that accepts input from a variety of user input devices. The web navigation device is coupled to a browser terminal that is in turn coupled to the web. The browser terminal displays information regarding the pre-screened web sites on the web, such information possibly including a merchant database that provides a list of the contents of the merchant web sites, and easy access to the pre-screened merchant web sites. The web navigation device facilitates access to and movement through the merchant database and to the merchant web sites.

Description

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SYSTEM AND METHOD FOR ACCESSING PREDETERMINED SHOPPING WEB
SITES

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BACKGROUND

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1. The Field Of The Invention.

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This invention relates generally to e-commerce. Specifically, the invention is a system and apparatus for interactive shopping on the Internet, or for browsing through information regarding goods and services that are available for purchase, wherein the system includes a set of pre-determined web sites that are organized according to content to thereby enable a convenient, rapid and otherwise advantageous e-commerce shopping experience, and wherein the apparatus includes a web navigation device which facilitates movement among web sites, and shopping.

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2. The State Of The Art

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The state of the prior art spans several disciplines because the present invention integrates a plurality of different technologies. The first technology is the Internet, or more specifically, the world wide web (the web hereinafter). The web is a system of Internet servers that support specially formatted documents. The documents are formatted in hypertext markup language (HTML) that supports links to other formatted documents, as well as graphics, audio and video files. What is important to know is that essentially the web is a collection of networked sites that are comprised of viewable web pages, wherein the pages have information that is transferred to

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and displayed on a screen using a user's web browser via
http. Unfortunately, the web is also becoming
increasingly unwieldy as it grows.

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5 Statistics regarding the increasing number of web
pages available for viewing changes constantly because of
the pace of growth of the Internet. However, at one point
in time it was estimated that over one million new web
pages were being added daily to the estimated one billion
existing web pages already available. With this mass of
10 information, it is becoming increasingly difficult to find
desired information because there is so little inherent
structure and organization on the Internet.

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Another problem finding information on the web is
that although many web sites are linked together, much of
15 the information is grouped in isolated web sites. These
isolated sites cannot be reached from some of the larger
and more familiar web portals. So it is not enough to
simply make information available on the web if that
information is not going to be accessible via a hypertext
20 link from some other location.

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Further complicating the matter is that a web site
can hold itself out as having a certain type of
information, when in fact it contains a different type.
There is little that can be done to stop a web site from
25 false advertising. The only way to know the exact
contents of a particular web site are to actually visit
it. Unfortunately, visiting a web site will necessarily
45 expose the visitor to whatever subject matter that the web
site actually contains.

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To assist users in locating desired information, search engines were developed. Search engines, web crawlers, and other similar search systems are typically indexes which, unfortunately, do not catalog every web page on the web. In fact, it is estimated that most search engines provide a glimpse into a mere 5% to 10% of the total number of web pages. Furthermore, the search engines often overlap each other in content, so a user is unable to know how many search engines must be employed in order to have confidence that important resources are not being missed when conducting a search.

To overcome this problem, there are programs that simultaneously perform a search using a plurality of different search engines. But even a large number of search engines do not provide access to all web pages.

The search engines themselves also raise another issue. Search engines do not screen information to verify that a web site actually contains information that it says it does. In effect, the search engine can unwittingly promote false information about the contents of a web site that is supplied by the web site to the search engine.

The problem with search engines is that they receive information regarding the contents of a web site from the web site itself, or by examining words that the web site is able to broadcast which are supposed to define web site content. What this means is that web sites can associate words with themselves which have nothing to do with their actual content. The result is that a popular search topic can deceptively be associated with an unrelated web site

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whose content has actually little or nothing to do with the popular search topic. So the databases or indexes that a search engine builds inevitably contain false information. Thus when a search is then performed using some keywords associated with the popular search topic, the unfortunate result is that positive search results or "hits" will be generated for these deceptive and misleading web sites.

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What is needed is a system which provides a more convenient and rapid method of web searching that will only provide search results that are in some manner guaranteed to contain the desired information. More specifically, what is needed is a way to provide a user with a pre-screened list of web sites about a selected range of pre-determined topics. In this way, the web sites that generate hits for being associate with the pre-determined topics could be thoroughly screened by others, so that erroneous and unrelated web sites can be eliminated. The system would therefore not rely on the search results provided by standard search engines.

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Given the size of the Internet, such a system has practical limitations. The system would be most useful when the search topics are all known in advance for a limited range of topics so that pre-screening of web sites is not an overwhelming activity. For example, the topics could be e-commerce web sites that are being provided for the purpose of on-line or Internet shopping or browsing of goods and services.

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Along with the pre-compiled list of pre-determined topics or web sites associated with a particular e-commerce subject, it is noted that navigating the web is often a laborious task. The nature of searching the web can be laborious because users are operating generalized computer input devices for navigation. For example, a keyboard in combination with arrow keys, a mouse, a touchpad or other cursor manipulation device are the most common computer input devices that are used when navigating the web. These generalized devices, while able to perform multiple functions, have the disadvantage of not being streamlined in function or operation for web navigation or browsing. These devices are also generally bulky when used in combination.

Accordingly, it would be advantageous to have a more specialized web navigation device to enhance movement through and interaction with the web. The footprint of the device should also be more in line with typical user needs. It would also be an advantage over the prior art to customize the web navigation device so that it was specifically linked to the pre-compiled list of pre-screened web sites or to a favorite on-line merchant, to thereby facilitate an e-commerce shopping or browsing experience.

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OBJECT AND SUMMARY OF THE INVENTION

It is an object of the invention to provide a system and method for improved web navigation when conducting e-commerce.

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It is another object to provide a system for improved web navigation which includes a pre-screened or pre-compiled list of web sites concerning a selected range of products and services.

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5 It is another object to provide a system for improved web navigation through pre-screened or pre-compiled lists of web sites wherein the web sites are actually visited in order to confirm their content, without relying on keywords embedded in the web sites which advertise content.

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It is another object to provide a customized web navigation device that facilitates movement through and interaction with the web.

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15 It is another object to provide a customized web navigation device that is linked by hardware, software, firmware, or a combination thereof to the pre-compiled list of web sites.

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20 It is another object to provide a customized web navigation device that is less cumbersome to use, and is smaller than a conventional keyboard.

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It is another object to provide a customized web navigation device that is conveniently coupled to the web utilizing wire or wireless technology.

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25 It is another object to provide a customized web navigation device that has at least one dedicated web navigation switch that causes a computer display to show at least one e-commerce web site that contains the pre-compiled list.

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It is another object to provide a customized web navigation device that causes a computer display to show a list of merchants that are associated with the pre-compiled list.

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It is another object to provide a customized web navigation device that has at least one switch that enables a user to select a merchant from the list of merchants, and to provide access to the selected merchant's web site.

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It is another object to provide a customized web navigation device that includes a variety of input devices such as a touchpad and stylus.

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It is another object to provide a customized web navigation device that enables other convenient web navigation options including scrolling, moving forwards and backwards through web pages and web sites, and zooming in and out of web pages.

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It is another object to provide a customized web navigation device that provides access to information regarding aspects of a particular merchant's web site, such as web site awards, web site ratings, web site popularity, and merchant trademarks.

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It is another object to enable the system to provide a unique identifier code which can be associated with a particular user or user hardware, and to transmit the unique identifier code to a database.

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It is another object to provide the pre-compiled list of web sites that can be updated with current and corrected information.

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It is another object to provide the pre-compiled list of web sites that is stored within a memory disposed within the web navigation device.

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5 The above objects are realized in a specific illustrative embodiment of a system and method for facilitating web navigation, and more specifically for providing the ability to access pre-screened web sites which are screened for the purpose of providing an improved e-commerce experience. The system and method 10 includes using a conveniently sized web navigation device that accepts input from a variety of user input devices. The web navigation device is coupled to a browser terminal that is in turn coupled to the web. The browser terminal 15 displays information regarding the pre-screened web sites on the web, such information possibly including a merchant database that provides a list of the contents of the merchant web sites, and easy access to the pre-screened 20 merchant web sites. The web navigation device facilitates access to and movement through the merchant database and to the merchant web sites.

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20 In accordance with a first aspect of the invention, the web navigation device preferably includes a touchpad and a small keyboard.

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25 In accordance with a second aspect of the invention, the web navigation device includes at least one dedicated switch which causes the browser terminal to access and display information from a merchant database.

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In accordance with a third aspect of the invention, the web navigation device includes at least one dedicated

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switch which causes the browser terminal to access and display a merchant site that is selected from the merchant database.

In accordance with a fourth aspect of the invention, the system includes pre-screening of merchant web sites in order to verify web content, so that when accessed through the system, the user is guaranteed to find the expected contents.

In accordance with a fifth aspect of the invention, the system includes categorizing the merchant web sites according to content to therefore provide structure and organization.

These and other objects, features, advantages and alternative aspects of the present invention will become apparent to those skilled in the art from a consideration of the following detailed description taken in combination with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a block diagram which describes the state of the art in typical access to the web on the Internet, where a web terminal accesses and displays information retrieved via http from web sites.

Figure 2 is a block diagram of the elements which are associated together in accordance with the principles of the presently preferred embodiment.

Figure 3 is a top elevational view of the presently preferred embodiment for a web navigation device 20 that includes a touch sensitive touchpad surface, mechanical

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switches, and at least one dedicated switch that provides rapid access to the merchant database.

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Figure 4 is a perspective view of an overlay template suspended over the touch-sensitive surface of a web navigation device.

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Figure 5 is a block diagram showing the presently preferred elements of the merchant database, including a local search engine, a relational database engine, a database of user activity, and a referral fee database.

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Figure 6 is a block diagram showing the web navigation device which includes a non-volatile memory wherein the merchant database can be recorded .

DETAILED DESCRIPTION OF THE INVENTION

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Reference will now be made to the drawings in which the various elements of the present invention will be given numerical designations and in which the invention will be discussed so as to enable one skilled in the art to make and use the invention. It is to be understood that the following description is only exemplary of the principles of the present invention, and should not be viewed as narrowing the claims which follow.

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An example of the prior art is summarized in figure 1. Figure 1 is a block diagram which shows a web access and browser terminal 10, the world wide web 12, and a connection 14 between the web access terminal and the web. The web access and browser terminal 10 is any device or system that uses the hypertext transfer protocol to access and display the contents of web sites. Accordingly, the

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web access and browser terminal 10 can be a desktop computer system such as the one shown that includes a CPU, a display and a keyboard. Accordingly, a laptop computer can also function as the web access and browser terminal 10. However, the web access and browser terminal 10 can also include such devices as a web enabled television.

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For example, such a system is comprised of a normal television set that includes WEBTV(TM). The distinguishing characteristics of the prior art systems include access to the web, and the ability to browse the web using typical general purpose input devices.

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In contrast, the present invention provides more specialized and specific control of navigation within the web, as well as access to specifically organized data. The specifically organized data includes merchant web sites, where the merchant web sites are organized according to content of goods and services provided therein.

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Referring to figure 2, there is shown the presently preferred embodiment of the system. The elements of the preferred embodiment include a specialized web navigation device 20 which is coupled via a communication link 22 to a web access and browser terminal 24. The web access and browser terminal 24 is in turn coupled to the World Wide Web 28 via another communication link 26.

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The communication link should be considered to be a any connection that enables access to the web. Typical communication links include a telephone modem, cable TV

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modem, cellular phone, fiber optic cable, RF satellite
modem, Ethernet, twisted pair cabling, etc.

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5 The web provides access to at least one merchant
database stored on a web server 30. The merchant database
has been previously prepared by screening web sites of
merchants who desire to have their goods and services
available to users of the present invention as will be
explained.

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In essence, the preferred embodiment enables a user
to easily navigate to the merchant database stored in the
web server 30, using the web navigation device 20. From
the merchant database, the user eventually selects a
merchant and moves to a web site provided by the merchant.
The merchant database only lists merchants whose web sites
have been approved for listing. The criteria for being
approved for listing will be explained later. The
merchant database is organized such that a user can search
either by merchant, or by products or services offered by
the merchants.

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When considering the preferred and alternate
embodiments of the present invention, it should be
remembered that e-commerce activities include more than
just shopping on the web. With so many different
companies now providing information about their products
and services on the web, it is possible to do extensive
research and make comparisons of competing products and
services. Thus, perusing web sites and learning about
goods and services without actually purchasing them should

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be considered within the scope of the total e-commerce "shopping" experience.

Before describing the method of practicing the invention, it is useful to consider the hardware and software described in figure 2. For example, the web access and browser terminal 24 can still be any web enabled device that is capable of providing Internet access, as well as displaying the contents of web pages. This can still be accomplished, for example, via a desktop computer, a laptop computer, a video game console, WEBTV®, or a web enabled television set that includes an interactive set-top box.

The web access and browser terminal 24 necessarily includes the ability to browse the web and display web page information. Therefore, browser software or a comparable equivalent for viewing the contents of web pages must be running. For example, the browser software is preferably a common web browser such as NETSCAPE NAVIGATOR(TM) or MICROSOFT INTERNET EXPLORER(TM).

However, it should also be considered to include web browsers that are used, for example, on small portable devices. These web browsers are more specialized to display web page information that can appear as text only, or is formatted for display on small screens.

When operating as desired, the web access and browser terminal 24 is running a web browser, and establishes communication between the web access and browser terminal 24 and the web server 30. The web server 30 enables data

from the merchant database stored thereon to be downloaded and displayed in a desired format.

Examining the web navigation device 20 more closely, the preferred embodiment is a touchpad, such as found in the Cirque Corporation CRUISE CAT(TM), or the INDELeLINK INDELePAD(TM). The touchpad is preferably a capacitance-sensitive touchpad. Figure 3 is provided as a close-up top view of one possible web navigation device 20.

Figure 3 shows that the presently preferred embodiment of the web navigation device 20 includes a touch sensitive touchpad surface 40, mechanical switches 42 which function as left and right mouse-click buttons, and at least one dedicated switch 44 which provides rapid access to the merchant database. Accordingly, the web access and browser terminal 24 is caused to display information from the merchant database that is stored on the web server 30 upon activation of the dedicated switch 44.

The dedicated switch 44 is preferably formed from a portion of the touch-sensitive touchpad surface 40. In other words, the touch-sensitive touchpad surface 40 can be divided into areas which are dedicated to functioning as a touch-sensitive switch, such as the dedicated switch 44. Other areas of the touch-sensitive touchpad surface are then dedicated to cursor manipulation.

In the presently preferred embodiment, it is envisioned that a plurality of dedicated touch-sensitive switches are provided on the touch-sensitive touchpad surface 40. The dedicated switches can be located at any

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convenient location on the touchpad, such as in a horizontal or vertical row along the top, bottom, or along a side.

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Alternatively, dedicated switches that provide immediate access to the merchant database can come in the form of mechanical switches that are located off of the touch-sensitive touchpad surface 40. The important feature of the dedicated switch or switches is that they provide an immediate connection to the merchant database. There are several reasons that this is important. First, there is no fumbling through activation of a browser, and then selection of a web site from a list of bookmarks. Second, activation is fast. This type of convenience defined as access that is convenient and immediate is an important and advantageous feature of the invention.

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Although provided with at least one dedicated switch, the web navigation device 20 can alternatively include a plurality of dedicated switches. The plurality of dedicated switches can be programmed to correspond to a variety of different shopping categories of goods and services. Furthermore, the programmable nature of these switches enables the user to change or customized the specific types of goods or services that the plurality of dedicated switches will access from the merchant database.

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Figure 4 illustrates that the programmable nature of the switches also impacts the use of a template or overlay 50 that can be disposed over the touchpad 52. The plurality of switches can be marked permanently, or can be marked temporarily using a removable or modifiable

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template that is disposed over the switches or the touch-sensitive touchpad surface if the switches are disposed thereon. A template 50 is generally a plastic material that an adhesive will cause to be fixed to the touch-sensitive touchpad surface 40. The adhesive can be applied to the touch-sensitive touchpad surface 40 or to the template 50 to cause the overlay to be disposed thereon.

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This same template can be used for advertising, enabling a sponsor to dispose a trademark and/or design mark on the template, thereby customizing the look of the web navigation device 20 and making it sponsor specific. One distinction between the web navigation device 20 of the present invention provides and the prior art is that an input device such as a keyboard may have a design mark or brand name of a particular merchant. However, this brand name is typically off to the side and generally small with respect to the size of the input device. In contrast, the present invention is able to focus attention on the brand name because it is disposable on the entire touch-sensitive touchpad surface. The user will actually run a finger over the brand name. This ability to focus attention on a merchant or sponsor of the web navigation device 20 appears to be unique to the present invention.

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The web navigation device 20 in the preferred embodiment provides a variety of advantageous navigation features. The feature set can include but is not limited to movement forwards and backwards between web pages, scrolling the web page horizontally or vertically,

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scrolling a window within a web page horizontally or vertically, and zooming in and out of a web page.

An alternative embodiment of the present invention also includes a touchpad surface of the web navigation device 20 that can operate in different modes. For example, a first mode enables the touch-sensitive touchpad surface 40 to capture a handwritten signature, a second mode can enable a miniature keyboard on the touch-sensitive surface, and a third mode can enable a digitizing tablet interface.

An important feature of the web navigation device 20 of the preferred embodiment is that it is preferably smaller than a conventional computer keyboard, thus making it convenient to operate while held in a hand or lap. Thus, the user can now sit back in a chair which is located at some distance apart from the web access and browser terminal 24, but still close enough for the user to see the display. Accordingly, the nature of the communication link 22 between the web access and browser terminal 24 and the web navigation device 20 becomes important.

In the presently preferred embodiment, the communication link 22 is a wireless connection. The nature of a wireless connection enables the user to more conveniently operate the web navigation device 20 from a position that is generally more comfortable than a chair in front of a desk. For example, the user can sit on a couch with the web navigation device 20 disposed on the user's lap.

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10 A wireless link can be established between the web navigation device 20 and the web access and browser terminal 24, for example, using radio frequency signals, ultrasonic signals, or optical infrared signals.

15 Alternatively, the communication link can be established with a wire. Although using a wire limits the distance between the web navigation device 20 and the web access and browser terminal 24, the limited length of the wire may not cause a problem for the user. Furthermore, 20 the cost of implementation of a direct wire connection will be less than a radio frequency, ultrasonic, infrared or similar other communication linking system. A direct 25 wire connection will also be less susceptible to interference.

15 Having described the hardware of the preferred embodiment, it is important to understand the function of the merchant database stored on the web server 30, and how it can interact with the web navigation device 20.

30 A block diagram of the merchant database 60 is shown in figure 5 to illustrate that it is used to describe a 35 database on the web server 30 that a user of the system is directed to access in order to have a safe online shopping experience. This does not mean that the user will 40 necessarily make a purchase from a merchant included in the database. The safe online shopping experience refers 25 to the aspect of the invention that the merchant web sites that are included in the database are pre-screened.

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various levels of screening. For example, at a minimum, the merchant web site has been visited to verify that the nature of the web site is as advertised. However, it should be apparent that there is no guarantee of the quality or usability of the goods or services of the merchant, other than warranties made by the merchant itself. Furthermore, the merchant web sites may change ownership or purpose. Thus, periodic re-inspection of merchant web sites is a policy of the presently preferred embodiment.

Despite the inevitable changes that take place on the web, there are some minimum standards that a merchant web site must meet in order to be included in and remain on the merchant database. For example, the merchant web site cannot contain any content or subject matter that is offensive. Obviously, the term "offensive" can have broad meaning. In this context, the term generally includes material that is typically referred to as pornographic, hateful, or demeaning of others. However, the standards reflected by this definition can be modified for the particular situation.

The merchant database 60 is organized by listing associated goods and services in a single location. For example, if a user wants to purchase a vehicle, pre-screened on-line car, truck and van dealers will all be listed together. One advantage of this system is that the user does not have to employ a search engine that will show search results that include non-screened merchant web sites. Pre-screened merchant web sites that deal in the

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desired goods and services are all found in a single database 60 of the present invention. The user can then locate desired goods and services using several different methods.

One method for the user to search for merchants of particular goods and services is to use a search engine 62 (figure 5) provided as part of the merchant database on the merchant web site. In the presently preferred embodiment, the search engine 62 is dedicated to providing search results that are confined to the contents of the merchant database 60.

Another search method is where the user can choose to visually search through an alphabetical list of either the goods and services, or the names of the merchants. To do this type of searching, the merchant database 60 has incorporated therein a relational database engine 64 for sorting through the merchant database and organizing data into desired relationships. Advantageously, the user is able to accomplish the search without leaving the confines of the merchant database 60. Non-screened merchant web sites will not appear in any of the listings or search results.

Another aspect of the merchant database is that the number of merchants in any particular shopping category can be limited in accordance with user selectable criteria in order to avoid overwhelming the user. For example, the total number of merchants displayed for a particular category of goods and services can be limited to the number of merchants that can be conveniently listed on a

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single browser page, or even adapted to mini-browsers.

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Another useful feature of the presently preferred embodiment is that information about a particular merchant is accessible to the user. This feature can be

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5 particularly important when shopping online because of the relatively anonymous identity of the merchant. A well

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is only after a purchase is made that numerous problems dealing with the merchant may arise. In addition, there

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will always be new users on the Internet who will feel some trepidation about what is often misperceived as a

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dangerous method of shopping. By making the user more familiar with an online merchant with whom the user is dealing, consumer fears can be minimized. Information

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about merchants can include but is not limited to such topics as popularity of a web site, awards received by a web site, performance ratings given by independent rating agencies, better business bureau statistics and reports, and trademark information.

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Another feature of the present invention is the ability to collect information regarding each specific user. Relevant information includes, for example, the purchasing habits of specific users. This information does not have to be sold to third parties to be useful.

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For example, purchasing habits can then be used to determine which ads or banners will appear when a particular user is accessing the merchant database. This information can also be used to modify the features of the merchant database, including adding more merchants of

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particular goods and services that are of particularly high interest to users who have previously made on-line purchases. A first example is that more florists might be made available to users around particular holidays. A second example is that merchants of sporting goods are made available to a previous purchaser of hunting, fishing or outdoor equipment. This information is preferably recorded in the merchant database 60 and stored in a database of user activity 66.

There are various ways that a specific user can be identified to the merchant database. For example, a web access and browser terminal can have associated with it an Internet cookie which identifies the user, as is understood by those skilled in the art. Alternatively, each web navigation device 20 can have a unique identification stored in hardware. This identification can be accessed by the merchant database. This is useful when, for example, a user moves the web navigation device 20 from one computer to another. In this example, a cookie would not identify the user as being the same user because access is being made from a different computer. This unique identification in the web navigation device 20 serves as a prime motivation to encourage the user to keep the web navigation device 20 even if a computer to which it has been attached is being replaced or upgraded.

In an alternative embodiment, another useful feature is the ability to provide information to the merchant regarding the identity of a consumer. This information could be the same type of information that is provided by

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an Internet cookie, or could be more detailed information. This detailed information can be made available to the merchant by identifying the user by using the unique identifier that can be made part of the hardware of the web navigation device 20.

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It has been explained that access to the merchant database that is stored on the web server 30 is important to the presently preferred embodiment. However, in an alternative embodiment, it can be useful to store the merchant database elsewhere. One reason this procedure can be useful is redundancy. The user can be assured of access to the merchant database regardless of the status of the web server 30.

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Another reason that it can be useful to redundantly store the merchant database is speed. Until broad bandwidth access to the Internet is more ubiquitous, access speed is a severe restriction on usability. Accordingly, it might be useful to store the merchant database on a storage device that is local to the user. For example, the merchant database can be stored on the hard drive of a computer which is functioning as the web access and browser terminal 10.

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However, if the merchant database is being stored locally, an integral feature of the present invention cannot be ignored. Namely, the merchant database must be up-to-date. This requirement is most likely a necessity because of the nature of the Internet. The Internet is touted as fast-paced and up-to-date e-commerce. Therefore, there can be no place for information that is

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not accurate. Accordingly, another feature of the present invention is the ability to automatically or manually update a locally stored merchant database.

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Figure 6 illustrates that local storage of the merchant database can even be accomplished within the web navigation device 20. For example, the web navigation device can include non-volatile random access memory (RAM) 82. The merchant database 60 is thus stored in the RAM 82 of the web navigation device 20. This feature can be extremely advantageous when the user wants to move the web navigation device 20 to another web access and browser terminal 10. This way, the merchant database 60 is mobile with the web navigation device 20.

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Another advantageous feature of the present invention is the layout of information from the merchant database. In other words, the user will always see the merchant database in the same format on a web browser, regardless of whether the user is accessing the web server 30, or a local storage device. This feature is important when dealing with those users who can be bewildered by the array of different styles of web sites that permeate the web. By offering a consistent interface to the merchant database, the user is assured of consistency regardless of how access is obtained.

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Local storage of the merchant database enables another advantageous feature. The user is also able to search the merchant database offline. This feature is useful for several reasons. For example, the user may be in a location where access to the Internet is not

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possible, such as on an airplane. The user might also be in a location where access is limited or slow.

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Furthermore, the user may simply want to conduct searches of the merchant database without needing to go to a merchant's web site.

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In an alternative embodiment, it is observed that the web navigation device 20 has always been described as a unit that is separate from the web access and browser terminal 30. This does not have to be the case. For

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example, the web navigation device 20 can be integral to the web access and browser terminal 30. For example, consider a laptop computer that has an integral touchpad for data input. Likewise, the web navigation device 20

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can be a touchpad that is integral to a keyboard of the web access and browser terminal 30. All of these configurations are possible because the components of the web navigation device 20 can all be contained within, for example, a touchpad such as the CRUISE CAT(TM) manufactured by Cirque Corporation or the INDELEePAD(TM) by INDELeLINK.

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Referring to the technology of the web navigation device 20 itself, it is observed that the touchpad

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preferably utilizes a capacitive-based technology.

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However, touchpad can also be implemented using electromagnetic, electrostatic, ultrasonic, optical, resistive membrane, or other finger or stylus responsive surface. This is because the web navigation device 20 is responsive to either a finger or a stylus used as the pointing object. The web navigation device 20 can also

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include an embossed ridge on the touchpad surface. The switch or switches and the keyboard are based on mechanical switches, membrane switches, rubber-dome switches or other switch activation technology.

It should be assumed that the present invention will function properly on other networks and using other protocols than just those provided by the web or the Internet. In other words, while HTML and TCP/IP are ubiquitous protocols, they may eventually be replaced by protocols that offer advantages including increased functionality. Furthermore, the principles of the present invention can be applied to any network, global or not.

Another alternative embodiment of the present invention is the ability to capture a signature. Because the present invention pertains to e-commerce, it can be important to have the ability to record an actual signature. This is not a digital signature. An actual signature might be needed in order to make a purchase from some merchants who want to provide increased security for web-based transactions. The actual signature can be digitized and recorded by the merchant, and a paper copy can be provided to the user. Just as important is the feature that by using pressure sensitive paper, the user can more easily write a signature on a touchpad surface because the user can actually see it. This is in contrast to the situation of having to sign a touchpad or a digital tablet when there is no way to "see" where the user is writing.

The present invention should also be recognized for

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another advantageous feature that it provides.

Specifically, merchants are receiving web traffic (web hits) and even purchases made by users of the system. Users of the system have been led to the merchant via the merchant database. Accordingly, these merchants can also pay referral fees to the operator of the merchant database. Referrals fees can be based on several different criteria. A first fee can be paid to the merchant database operator for simply enabling a user to link to the merchant's web site from the merchant database, regardless of whether or not a purchase was made. A second and typically higher referral fee can be paid when the user actually makes a purchase from the merchant. A referral fee database 68 (figure 5) is therefore preferably maintained within the merchant database 60. The referral fee database 68 simply records the number of web navigation devices 20 that link to a merchant's web site from the merchant database 60.

The value of directing users to a particular merchant should not be overlooked. A merchant's success in e-commerce depends upon users being able to locate the merchant's web site. The more users that can be directed to the web site, the more opportunities there are for sales. Accordingly, web merchants are more than willing to pay referral fees because of the likely outcome of more web hits.

It has been explained above that the plurality of dedicated switches can be programmed to correspond to a variety of different shopping categories of goods and

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services. In another alternate embodiment, the plurality of dedicated switches can be programmed to take a user to a specific merchant or sponsor web site. For example, if the user likes to make on-line purchases of books, two switches can be programmed to take the user directly to two different on-line merchants of books. In another example, the first switch may take the user to a home page of a merchant or sponsor, and a second switch may take the user to a specific page within the merchant web site.

10 However, just because a user is able to go to a merchant's home page, it does not necessarily mean that the user went directly to that site. Thus, in an alternative embodiment, the user is passed through the merchant database, and then directed to the merchant's web site. This "redirection" has advantages. For example, assume that the home page of the merchant changes. The user may not be aware of this change, and thus a switch takes the user to a non-existent site, resulting in an error message.

20 Thus, by redirecting a user to a merchant's web site by passing through the merchant database, any changes in the myriad of merchant's web sites are all handled by the merchant database. This has the advantage of making the process seamless to the user, and provides the benefit to the merchant of keeping users who have become accustomed to purchasing or browsing their goods and services. The only cost to the merchant is the referral fee that is generated by passing the user through the merchant database.

Another advantage of this embodiment is that redirection is automatic and transparent to the user. Any process that does not require a user to change a procedure benefits the merchant. Furthermore, it avoids having to update the programmed URL's that are associated with the plurality of switches.

Another advantage of the redirection embodiment arises when a merchant fails to pay referral fees. If the operator of the merchant database is not being paid for the referrals, the merchant database operator is able to redirect the users to the web site of a merchant who is willing to pay the referral fee.

Finally, it is noted that the merchant database can easily track all accesses of a user to any merchant if all accesses pass through the merchant database. The user is not bothered because the redirection process is seamless and does not interfere with rapid access to the merchant's web site.

It is to be understood that the above-described arrangements are only illustrative of the application of the principles of the present invention. Numerous modifications and alternative arrangements may be devised by those skilled in the art without departing from the spirit and scope of the present invention. The appended claims are intended to cover such modifications and arrangements.

Claims

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CLAIMS

What is claimed is:

1. A system for facilitating navigation among web sites and web pages at the web sites that are accessible via the web, wherein the system facilitates e-commerce, said system comprising a web navigation device for facilitating navigation in the world wide, wherein the web navigation device includes:

at least one touch-sensitive surface whereby data is input to the web navigation device, and wherein the at least one touch-sensitive surface includes an image disposed thereon; and

at least one switch which actuates an activity associated with web navigation.

2. The system as defined in claim 1 wherein the at least one touch-sensitive surface is selected from the group of touch-sensitive surfaces consisting of touchpads and digitizer tablets.

3. The system as defined in claim 1 wherein the image disposed on the at least one touch-sensitive surface comprises an overlay which is disposed thereon utilizing an adhesive.

4. The system as defined in claim 3 wherein the adhesive used to dispose the image on the at least one touch-sensitive surface is not permanent, thereby enabling

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the image to be removed from the at least one touch-sensitive surface.

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5. The system as defined in claim 1 wherein the image disposed on the at least one touch-sensitive surface generally at least half of the area of the at least one touch-sensitive surface.

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10 6. The system as defined in claim 1 wherein the image disposed on the at least one touch-sensitive surface is a trademark of a merchant that is marketing the web navigation device.

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15 7. The system as defined in claim 1 wherein the at least one switch is programmable so that it can perform a desired web navigation function.

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20 8. The system as defined in claim 7 wherein the desired web navigation function is selected from the group of web functions consisting of connecting a computer system to the world wide web, providing a uniform resource locator address to a web browser, displaying a message on a display which informs a user of the function being performed, and invoking an electronic mail software program.

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9. The system as defined in claim 1 wherein the at least one switch is disposed within a region of the touch-sensitive surface such that the at least one switch is

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actuable by touching the at least one switch.

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10. The system as defined in claim 1 wherein the at least one switch is a mechanical switch that is separate from the at least one touch-sensitive surface such that the at least one switch is actuable by pressing on the at least one switch until an electrical contact is opened or closed.

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11. The system as defined in claim 1 wherein the system further comprises a browser terminal which is coupled to the web navigation device, and which displays information retrieved from the world wide web by using the web navigation device.

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12. The system as defined in claim 11 wherein the web browser further comprises:

a visual display for displaying information retrieved from the world wide web; and

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- 20 a web browser software program for accessing the web sites and displaying the web pages.

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13. The system as defined in claim 12 wherein the system further comprises a computer which executes the web browser software program, is coupled to the visual display, and is coupled to the web navigation device.

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14. The system as defined in claim 11 wherein the system further comprises a merchant database which is hosted at a

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merchant database web site and which displays merchant information, wherein the web navigation device navigates to the merchant database to thereby display the merchant information on the browser terminal.

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15. The system as defined in claim 14 wherein the merchant database further comprises:

a relational merchant database which is capable of providing information regarding a plurality of merchants; and

a search engine software program which provides search results regarding information stored in the relational merchant database.

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16. The system as defined in claim 14 wherein the merchant database further comprises information including goods and services that are offered by selected merchants.

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17. The system as defined in claim 16 wherein the merchant database further comprises information including goods and services offered by selected merchants whose web sites are pre-screened for web site content.

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18. The system as defined in claim 14 wherein the system further comprises a means for detecting the number of users who visit a merchant web site by selecting the merchant web site from the merchant database.

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19. The system as defined in claim 1 wherein the web navigation device performs functions that are selected from the group of functions consisting of providing cursor control, and providing interface functions including scrolling, moving forward and backward through web pages, and zooming.

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20. The system as defined in claim 11 wherein the web navigation device further comprises a wireless communication port such that the web navigation device can be operated remotely from the browser terminal.

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21. The system as defined in claim 1 wherein the at least one touch-sensitive surface further comprises a touch-sensitive surface which is capable of receiving input from a finger or a stylus.

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22. The system as defined in claim 1 wherein the web navigation device further comprises a unique identifier code that is disposed therein, wherein the unique identifier code is accessible via a network when the web navigation device is in operation.

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23. The system as defined in claim 1 wherein the system further comprises:

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a memory disposed within the web navigation device;
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at least a portion of the merchant database stored in the memory to thereby enable access to the merchant

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database without having to be on-line.

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24. The system as defined in claim 1 wherein the system further comprises a web navigation device having a plurality of switches which actuates an activity associated with web navigation.

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25. A system for facilitating navigation among web sites and web pages at the web sites that are accessible via the web, wherein the system facilitates e-commerce, said system comprising:

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a web navigation device for facilitating navigation in the world wide;

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a browser terminal which is coupled to the web navigation device, and which displays information retrieved from the world wide web by using the web navigation device; and

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a merchant database which is hosted at a merchant database web site and which displays merchant information, wherein the web navigation device navigates to the merchant database to thereby display the merchant information on the browser terminal.

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26. The system as defined in claim 25 wherein the at least one touch-sensitive surface is selected from the group of touch-sensitive surfaces consisting of touchpads and digitizer tablets.

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27. The system as defined in claim 25 wherein the image disposed on the at least one touch-sensitive surface is a large percentage of the at least one touch-sensitive surface.

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28. The system as defined in claim 25 wherein the image disposed on the at least one touch-sensitive surface is associated with a sponsor.

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29. The system as defined in claim 25 wherein the at least one switch is programmable so that it can perform a desired web navigation function.

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30. The system as defined in claim 29 wherein the desired web navigation function is selected from the group of web functions consisting of connecting a computer system to the world wide web, providing a uniform resource locator address to a web browser, displaying a message on a display which informs a user of the function being performed, and invoking an electronic mail software program.

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31. The system as defined in claim 25 wherein the web browser further comprises:

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a visual display for displaying information retrieved from the world wide web; and

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a web browser software program for accessing the web sites and displaying the web pages.

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32. The system as defined in claim 31 wherein the system further comprises a computer which executes the web browser software program, is coupled to the visual display, and is coupled to the web navigation device.

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33. The system as defined in claim 25 wherein the merchant database further comprises:

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a relational merchant database which is capable of providing information regarding a plurality of merchants; and

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a search engine software program which provides search results regarding information stored in the relational merchant database.

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34. The system as defined in claim 33 wherein the merchant database further comprises information including goods and services that are offered by selected merchants.

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35. The system as defined in claim 34 wherein the merchant database further comprises information including goods and services offered by selected merchants whose web sites are pre-screened for web site content.

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36. The system as defined in claim 25 wherein the system further comprises a means for detecting the number of users who visit a merchant web site by selecting the merchant web site from the merchant database.

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37. A system for facilitating navigation among web sites and web pages at the web sites that are accessible via the web, wherein the system facilitates e-commerce, said system comprising:

a web navigation device for facilitating navigation in the world wide web, wherein the web navigation device includes:

at least one touch-sensitive surface whereby data is input to the web navigation device; and

at least one switch which performs an activity associated with web navigation;

a browser terminal which is coupled to the web navigation device, wherein the browser terminal includes:

a visual display; and

a web browser for accessing the web sites and displaying the web pages; and

a merchant database which is hosted at a merchant database web site and which displays merchant information, wherein the web navigation device navigates to the merchant database to thereby display the merchant information on the browser terminal.

38. A method for facilitating navigation among web sites and web pages that are accessible via the web, wherein the system facilitates e-commerce, said method comprising the steps of:

(1) providing a web navigation device for facilitating navigation in the world wide web, wherein the web navigation device includes at least one touch-

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sensitive surface whereby data is input to the web navigation device, and wherein the at least one touch-sensitive surface includes an image disposed thereon, and at least one switch which performs an activity associated with web navigation;

(2) providing a browser terminal which is coupled to the web navigation device, and which displays information retrieved from the world wide web by using the web navigation device; and

(3) navigating the world wide web by providing input to the web navigation device to thereby control the browser terminal so as to display desired web pages.

39. The method as defined in claim 38 wherein the method further comprises the steps of:

(1) selecting an image to dispose on the touch-sensitive surface;

(2) applying an adhesive to the touch-sensitive surface; and

(3) disposing the image to the touch-sensitive surface such that the image is held in place by the adhesive.

40. The method as defined in claim 38 wherein the method further comprises the steps of:

(1) removing the image from the touch-sensitive surface;

(2) selecting a new image; and

(3) disposing the new image on the touch-sensitive

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surface, to thereby customize the web navigation device as desired.

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41. The method as defined in claim 38 wherein the method further comprises the step of customizing the web navigation device by prominently disposing a design that is associated with a particular merchant on the touch-sensitive surface to thereby indicate sponsorship of the web navigation device.

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42. The method as defined in claim 41 wherein the design that is associated with the particular merchant occupies at least half of the touch-sensitive surface.

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43. The method as defined in claim 38 wherein the method further comprises the steps of:

(1) accessing the merchant database;

(2) selecting a first merchant; and

(3) moving to a web page of the first merchant by

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accessing a link from the merchant database to the first merchant.

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44. The method as defined in claim 38 wherein the method further comprises the step of programming the at least one switch such that when actuated on the web navigation device, the browser terminal displays a web site of a first merchant, wherein the first merchant is selected from a list of merchants that are stored in the merchant database.

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45. The method as defined in claim 44 wherein the method further comprises the steps of:

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(1) accessing the merchant database;

(2) locating a URL of the first merchant; and

(3) moving to a web page of the first merchant by accessing a link from the merchant database to the first merchant, wherein a user does not see a redirection from the merchant database to the URL of the first merchant.

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46. The method as defined in claim 45 wherein the method further comprises the step of counting the number of times that a web navigation device redirects a browser terminal from the merchant database to a merchant that is selected from the merchant database.

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47. The method as defined in claim 46 wherein the method further comprises the step of paying a first rate to a provider of the merchant database for each redirection of a web navigation device from the merchant database to a merchant that is selected from the merchant database.

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48. The method as defined in claim 47 wherein the method further comprises the step of paying a second rate that is higher than the first rate, to a provider of the merchant database for each redirection of a web navigation device from the merchant database to a merchant that is selected from the merchant database, when the redirection results in a purchase of goods or services from the merchant.

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49. The method as defined in claim 47 wherein the method further comprises the step of redirecting a web navigation device to a different merchant than one which is programmed to be accessed by the at least one switch if a merchant is not paying the provider of the merchant database for redirecting a web navigation device to the merchant.

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50. The method as defined in claim 38 wherein the method further comprises the step of providing a plurality of switches on the web navigation device that are programmable so as to direct the web navigation device to a particular web site that is selected from the merchant database.

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51. The method as defined in claim 38 wherein the method further comprises the steps of:

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- (1) providing a visual display for displaying information retrieved from the world wide web; and
- (2) providing a web browser software program for accessing the web sites and displaying the web pages.

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52. The method as defined in claim 38 wherein the method further comprises the steps of:

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- (1) providing a relational merchant database which is capable of providing information regarding a plurality of merchants; and

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- (2) providing a search engine software program which provides search results regarding information stored in

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the relational merchant database.

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53. The method as defined in claim 38 wherein the method further comprises the step of pre-screening merchants that are listed in the merchant database, wherein the pre-screened merchants are selected based on predetermined criteria which qualifies or disqualifies the merchants from being listed in the merchant database, and wherein the predetermined criteria are designed to enables a safe e-commerce experience.

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54. The method as defined in claim 38 wherein the method further comprises the step of providing information in the merchant database regarding merchants and merchant web sites, including web site awards, web site ratings, web site popularity statistics, and merchant trademarks.

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55. The method as defined in claim 38 wherein the method further comprises the step of including a unique identifier code in the web navigation device, wherein the unique identifier code is accessible via a network when the web navigation device is in operation, whereby operations of the web navigation device can be recorded.

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56. The method as defined in claim 38 wherein the method further comprises the steps of:

(1) including a memory within the web navigation device; and

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(2) recording at least a portion of the merchant

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database in the memory to thereby enable access to the merchant database without having to be on-line.

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57. The method as defined in claim 56 wherein the method further comprises the step of periodically updating the at least a portion of the merchant database stored in the memory of the web navigation device to thereby maintain the merchant database in an up-to-date status.

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58. The method as defined in claim 38 wherein the method further comprises the step of limiting search results in order to avoid overwhelming a user of the system.

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59. The method as defined in claim 58 wherein the method further comprises the step of formatting search results of the merchant database to thereby provide an appropriate amount suitable for display in a mini web browser program.

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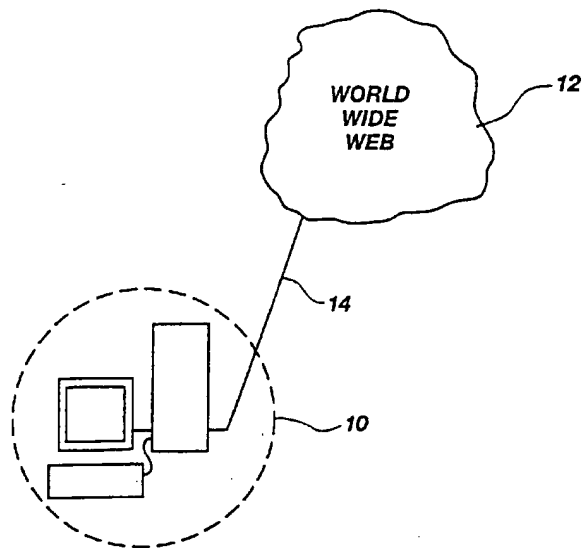


Fig. 1
(PRIOR ART)

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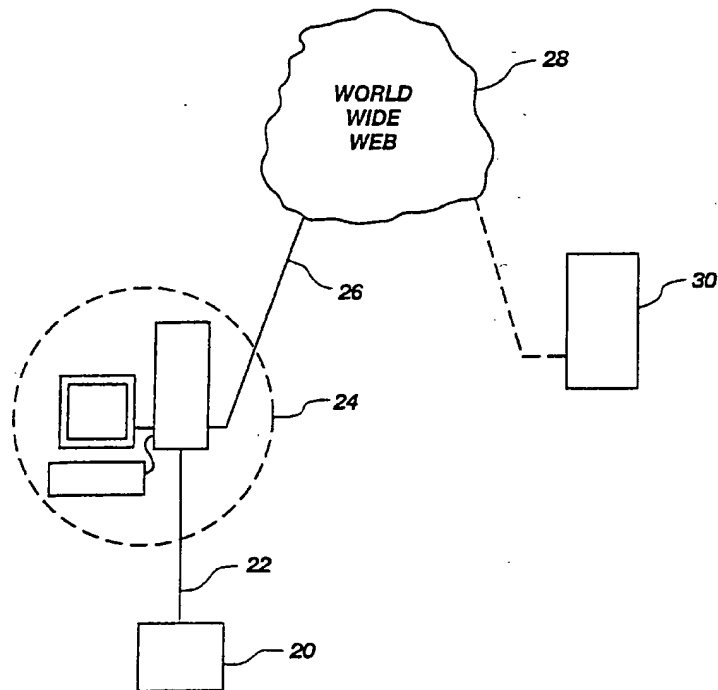


Fig. 2

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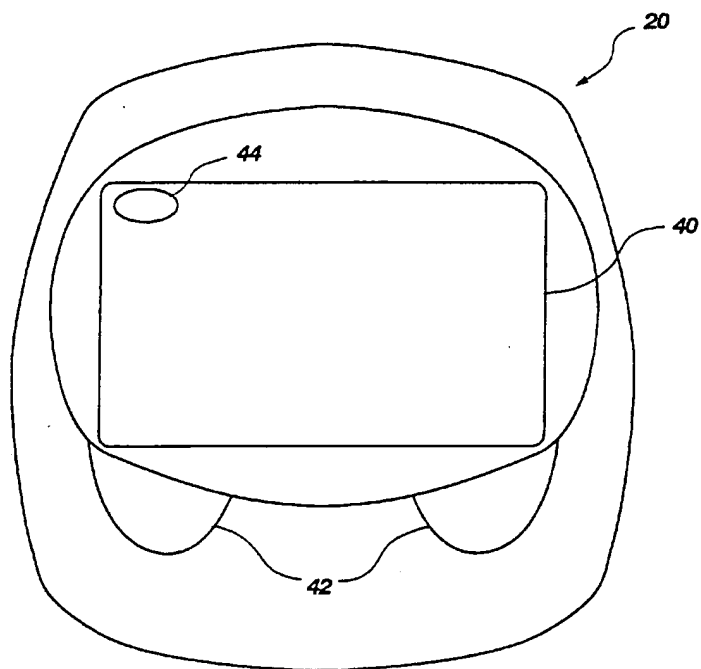


Fig. 3

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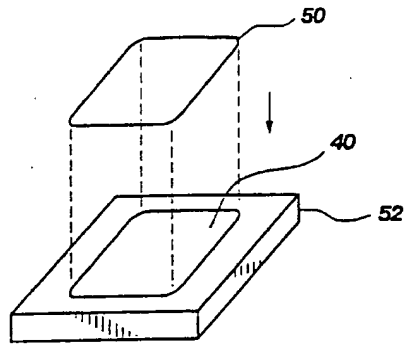


Fig. 4

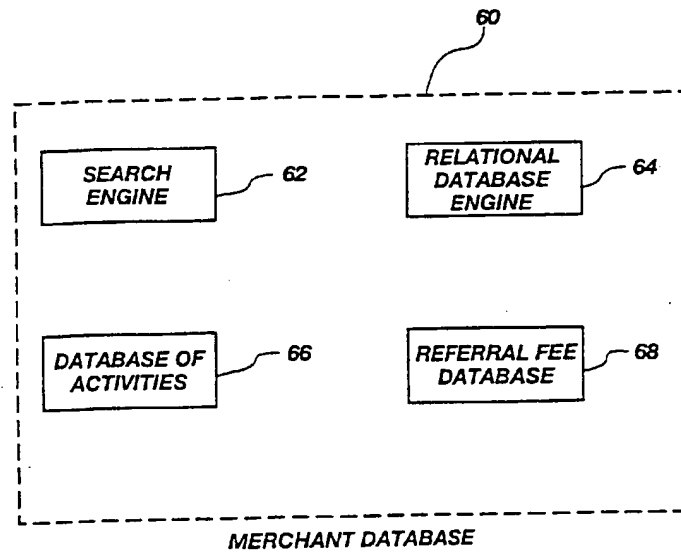


Fig. 5

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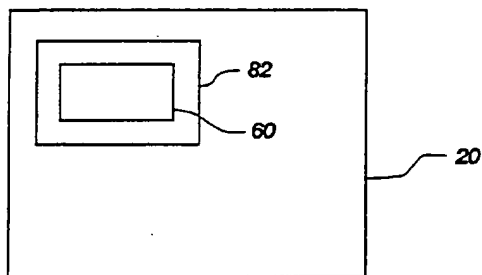


Fig. 6